

THE CREATIVE ECONOMY





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GO CREATE

HOW IS THE UK'S CREATIVE ECONOMY DOING, AND HOW DOES RESEARCH IN THE ARTS AND HUMANITIES CONTRIBUTE TO IT?

WE SPOKE TO DR EMMA WAKELIN, WHO LEADS THE ARTS AND HUMANITIES RESEARCH COUNCIL'S WORK IN SUPPORTING THE CREATIVE INDUSTRIES.

What would you say is the current state of the Creative Economy in the UK?

The Creative Industries, which range from advertising, design and crafts to TV, film, music and computer games, continue to be a real strength of ours in the UK. They supported 1.68 million jobs in 2012, 5.6 per cent of the total, and they account for over £16bn in exports every year.

Employment in the UK Creative Industries increased by 8.6 per cent between 2011 and 2012 – a much higher rate than for the economy as a whole. In difficult economic times, in other words, the UK Creative Industries have bucked the trend, and been a real success story.

And we have to remember that theirs is a double contribution – there's also the effect (which is often hidden) that the Creative Industries have on quality of life in the UK, helping to give places a rich and vibrant culture.

Yet compared to other big industrial sectors, the Creative Industries are highly diverse, and until recently they haven't had the visibility or representation that other sectors have had – we've tended to treat them as if they were a fragmented community of freelancers, or amateurs working from their bedrooms.

What is the role of academic research in the Creative Economy?

Without academic research, much of the Creative Economy simply wouldn't happen. Researchers

are often able to put in the thinking time that's needed to come up with innovative ideas. They can provide research evidence for why a particular approach has worked, and why it might be replicable. They produce content that the Creative Industries use.

To take an example – the 2012 film *The Act of Killing*, which features interviews with former members of death squads in Indonesia, and which was nominated for an Oscar for Best Documentary Feature. That arose out of a research grant from the AHRC, which allowed researchers to gather and collate the source material which underpins the film.

But this is an unpredictable business – it's impossible to pick winners, and we can't guarantee what kind of pay-off an individual piece of research will have. All we can do is make a space for innovation to happen.

What's the role of the Arts and Humanities Research Council in all this?

I see our job at the AHRC as one of selling-in: encouraging academics to think where there might be interest in their work outside of their departments, and giving businesses a flavour of what might be interesting and useful in the latest academic research.

There's the work of the Knowledge Exchange Hubs, for example (the AHRC has committed £16m until 2015/16 to support four KE Hubs for the Creative Economy, which promote the exchange of ideas between arts and humanities researchers and a range of creative and cultural organisations, fostering entrepreneurial talent and stimulating innovation). The Knowledge Exchange Hubs are multi-million-pound enterprises, led by senior academics. But we work on a smaller scale, too. The Brighton Fuse project, for example, is mapping, measuring and supporting Brighton's existing creative, digital and IT cluster, looking at how the Creative Economy already works in the town – its characteristics, and the reasons behind its success. And we also work with younger

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'Without academic research, much of the Creative Economy simply wouldn't happen'
Dr Emma Wakelin

THE ACT OF KILLING

The Act of Killing arose out of a research grant from the AHRC, which, says Emma Wakelin, 'allowed researchers to gather and collate the source material which underpins the film.'

The film which has won a BAFTA and was nominated for an Oscar for Best Documentary, is part of the AHRC-funded Genocide and Genre research project at the University of Westminster. It explores the Indonesian genocide of the 1960s, telling the story of a group of former members of Indonesian death squads being challenged to revisit and re-enact their earlier crimes.

Paying tribute to the AHRC for its part in funding the film, director Joshua Oppenheimer said: 'We could never have made this film without the Arts and Humanities Research Council saying these are really important research questions and this is an important innovation in film form and film production and this is worth taking a chance on... That gave us the resources for me to work full-time on the film for three more years, so I had four years of full time work on the film.'

'Once there was this material, the film funders who had said no to the film... when they saw the material that we were able to shoot with the AHRC grant, then they came on board.'



'WE COULD NEVER HAVE MADE THIS FILM WITHOUT THE ARTS AND HUMANITIES RESEARCH COUNCIL SAYING THIS IS AN INNOVATION IN FILM FORM...'



researchers and PhD students, giving them experience and skills.

What are the challenges of trying to intervene in this area?

Some of the obstacles that we're trying to overcome include the time pressures that businesses can face, which can make it difficult for them to have speculative conversations, or to step back and see the bigger picture. There can be misperceptions too – the sense that some businesses have, for example, that academics aren't at the cutting edge (when in many areas – such as digital technology – they very much are, because they have time to be). Academics, in turn, can be suspicious of the 'impact agenda', and anything that seems to put a Pound sign on investment in Higher Education.

We're working to get round these problems – for example we're looking at simpler and quicker Intellectual Property agreements that businesses and researchers can use when they collaborate, and we've funded the Copyright Centre – www.create.ac.uk – to help with this. And we're encouraging people to move between academic departments and businesses – the Knowledge Exchange Hubs enable this to happen.

What do you see as the growth areas in the Creative Economy, looking ahead?

Design is a particularly interesting case at the moment – not so much product design, but service design, which involves thinking services through from the user's perspective.

There was an example recently of a Local Authority that approached a design agency, to come up with ideas to encourage more people to use its swimming pool. After some research with customers, the agency didn't recommend that the pool be refurbished – the problem, they established, was that the Local Authority had changed its bus timetables, meaning that visitors couldn't get to the pool at all. It was about service design, not the design of the pool.

We're working with the Cabinet Office to think about policy development from the user perspective. We're also working with the Design Council on how we articulate the value of design expertise in this context – we're working on a call to get design academics to work for a year in businesses or public sector bodies, to embed design thinking in these organisations. We're also working on an empirical study, which takes a town, and looks at the work of the Local Authority, the local Chamber of Commerce, and the local networks of creative and digital businesses, and shows how design feeds into all of them – tracking the flow of ideas from the designer's head to the local economy.

Looking forward, across the Creative Economy I think we've now established that there is an appetite outside universities to engage with research, and that is not going to go away. This isn't something that's driven just by politicians – academics and business people with experience of collaboration will sell the idea to others. The challenge for us will be what we do when the work of the current four Knowledge Exchange Hubs comes to an end. They've represented a big change for us – rather than just funding individual, small-scale projects, they help to create critical mass. And there's more that we can do to support researchers once they get ideas to the prototype stage, to help make them marketable.

What do you hope that the Creative Economy Showcase event will achieve?

Given that the Creative Economy is so varied, the Showcase event gives us the chance to show some of the many different ways that arts and humanities research can be interesting and useful to those outside the academic community. It can be difficult to visualise how knowledge exchange works in the Creative Industries. But through the Showcase we can give concrete examples of the benefits that it brings.

SCREEN SAVER

A NEW RESOURCE WILL BRING UNPARALLELED INSIGHT INTO TELEVISION PROGRAMMES THAT REVOLUTIONISED BRITISH TELEVISION

‘People sometimes forget just how radical Channel Four was when it began,’ says TV and film historian Dr Justin Smith. The new channel broke down the old duopoly enjoyed by the BBC and ITV, and with its remit to cater for minority audiences, and to buy from independent producers, it sparked all kinds of innovations in making programmes.’

And those innovations weren’t limited to the small screen. Channel Four also breathed new life into British film, and created a distinctly British model of film funding, unlike those of Hollywood or the highly subsidised Continental film industries.

Channel Four’s charter made the promotion of film part of its job: Film on Four broke new ground in directly funding feature film production, and gave many film-makers and actors, who would go on to great things, their first break.

Channel Four also established a distribution arm: from 1998 to 2006 it pioneered a subscription film service, FilmFour, on its digital network, since re-launched as the only dedicated freeview film channel: Film4.

A new project is looking at the broadcaster’s creative legacy. In particular, the four-year project, Channel Four Television and British Film Culture, which is funded by the Arts and Humanities Research Council, assesses Channel Four’s impact on British film culture since it began transmitting in 1982.

The Channel Four project has involved producing a database of the broadcaster’s weekly press information packs, from its first two decades. The packs, which had been sitting on the shelves



of one of the project partners, the British Universities Film and Video Council (BUFVC), represent an unparalleled resource: Chris Griffin-Beale, Channel Four’s first press officer, gave journalists much more than a simple seven-day listing of what would be aired. The booklets he produced each week contained detailed film notes, programme highlights, reviews and stills, explaining why programmes and films were interesting and

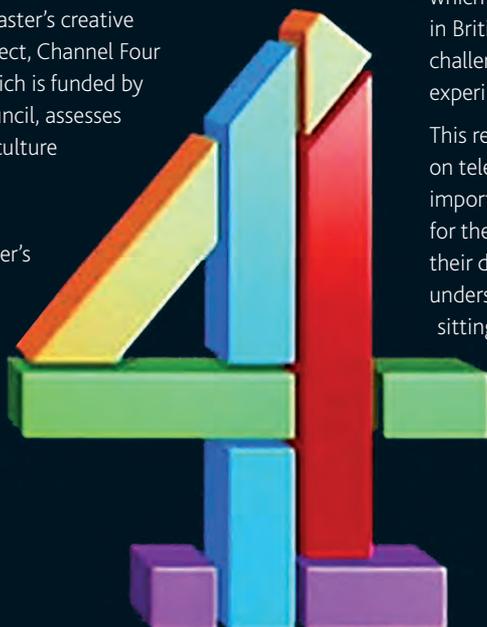
important, and why they were worthy of media attention.

The press packs can now be searched and viewed online, giving researchers a unique insight into some of the programmes that revolutionised British television.

The resource was created through a partnership between the University of Portsmouth and the BUFVC, and with the involvement of Channel Four. And as Justin Smith, who is Reader in British Film Culture at Portsmouth, explains: ‘Channel Four themselves have learned a great deal, through this project, about what they hold in their archives. For cultural historians, this database helps to bring alive an era

which witnessed some radical developments in British broadcasting, and distinctive and challenging programming which was often experimental in form and content.

This resource offers a unique perspective on television history. And given what an important export TV programmes are for the UK, it’s vital that we understand their development, and that broadcasters understand what rich resources they might be sitting on.’



TAILOR-MADE RESEARCH

'The fashion industry can be very old-fashioned,' says the London College of Fashion's Professor of Fashion and Textile Design and Technology, Sandy Black. 'The problem is that fashion businesses don't have much of a culture of carrying out R&D, and they don't tend to go in for knowledge exchange with academics.'

You might think that the rag trade had a lot to gain from engaging with research. Fashion, after all, is inherently multi-disciplinary, touching as it does on design, materials, technology, culture, business, ethics and sustainability – all areas in which research can contribute.

Yet as the British Fashion Council has recently identified, there are key issues preventing the UK fashion industry from reaching its full potential. For all that it thrives on the new, the world of fashion is secretive, with a reluctance among businesses (most of them SMEs) to share new ideas. It is also very fast-moving, with very little time for in-depth research on some of the things that might provide a competitive advantage – concept innovation, process innovation or new materials, say.

Designed to do something about this is the Fashion, Innovation, Research and Enterprise (FIREup) project, funded by the Arts and Humanities Research Council, and run by the University of the Arts London, which includes the London College of Fashion. FIREup aims to show what methods can best engage those in the fast-moving designer fashion sector, and encourage them to work with academics.

To begin with, the FIREup project has involved industry interviews and surveys, which have identified some of the barriers to academic/ industry collaboration – not



least the industry's lack of understanding of academic research. As Sandy Black says, 'university research is viewed as being far removed from what the fashion industry does. Largely this is about perceptions that need to be changed – people in fashion houses just don't understand what research or collaboration means, in relation to them.'

To make it clearer what possibilities exist in this area, FIREup has funded a number of exemplar projects, showing practically what can be achieved when fashion businesses work with researchers. One, for example, looks at how new accessories can be made through 3D printing, while another involves testing a new garment development process,

HOW CAN ACADEMIC RESEARCH WORK COLLABORATE WITH THE FAST-PACED FASHION INDUSTRY TO THE BENEFIT OF BOTH?

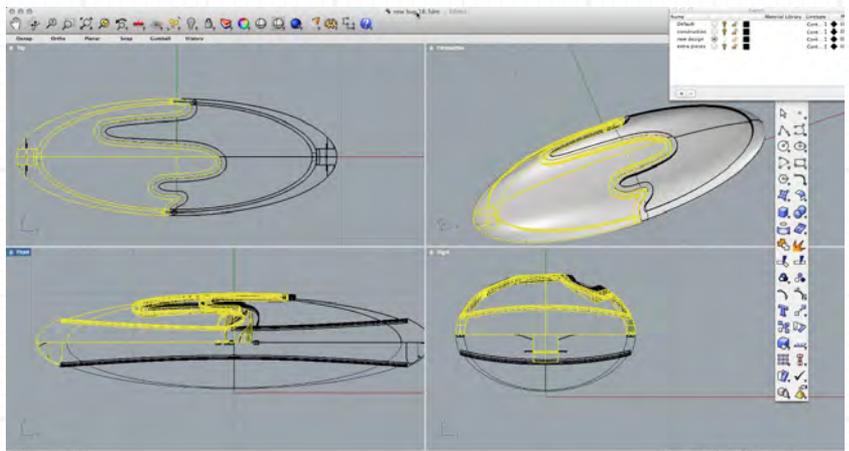
designed to be more sustainable. Case studies describing these projects are now available via FIREup's digital platform, at www.fireup.org.uk.

The FIREup website also harnesses social media as a means of bringing fashion businesses and researchers together. Once website visitors have signed-up, they can be contacted by other users who might be interested in similar things: the site also provides pointers to information on external funding, and other available resources.

At the Creative Economy Showcase event, as well as film presentations from the FIREup project, there is also a breakout session exploring common ground between the FIREup project and the RIBA/ University of Sheffield Home Improvements project (see page 17), which is dealing with many similar issues. Fashion houses, like architects' practices, may soon be opening up to what research has to offer.

Above: 3D printed and hand crafted bag by Michelle Lowe Holder, in collaboration with Thomas Makryniotis. Photo Polly Penrose.

Below: shot from the 3D digital development with Michelle Lowe-Holder by Thomas Makryniotis



TAKING THE PULSE OF THE PLANET

ADAM OXFORD WRITES ABOUT HOW A CUTTING-EDGE PROJECT USED TWITTER TO GAUGE THE CHANGING EMOTIONS OF 2012'S OLYMPIC GAMES

Nearly 690,000 visited the UK for the 2012 London Olympics, to be part of the 7.4 million people who visited stadia during the event . It delivered the BBC's highest viewing figures ever, and online it also inspired the highest number of "Tweets" for a single event since the social media site Twitter was launched, with 150 million messages sent during the Olympic fortnight .

By their nature, Tweets tend to be ephemeral things: short burst of information which contain a link to something informative or funny, or a quick expression of emotion. But analysed en masse they can reveal intriguing patterns which can be of academic, commercial and artist use. That, at least, is what a team of researchers, technologists, artists and data specialists set out to show through emoto, a project part funded by the AHRC through The Creative Exchange, one of its four Knowledge Exchange Hubs.

emoto captured 12.5 million English language updates to Twitter which referenced the Games during Olympic fortnight, and analysed them for 'sentiment' by parsing for positive or negative language. Using this information, they created a real-



DAY 5

DAY 6

time representation of the mood the online crowd – commonly called a “data visualisation” – in order to identify patterns in both the sentiments expressed and networks through which they spread and amplified. They also provided tools to search through and explore a timelines of topics and see how events and people related to one another.

The result was fascinating, fun, compellingly interactive and arguably beautiful too.

The emoto project was led by Manchester-based FutureEverything, an organisation that describes itself as an “R&D hub for digital culture”. It worked through the Creative Exchange KE Hub, based at Lancaster University, whose focus is to bring pioneering companies together with academics to explore the potential of something they are calling the “digital public space”. Founder and CEO of FutureEverything Drew Hemment has been exploring the interaction between data and public space for 20 years, and has been instrumental in the movement to open up UK government data for public use.

‘We did a live data visualisation of the first televised Prime Ministerial debates in 2010,’ explains Hemment, ‘And were running a data literacy education program at the same time. We knew the Olympics were on the horizon, and felt that it would be an incredible opportunity to develop an experiment in data visualisation on a really big scale.’

One of the challenges for the emoto was verifying the sentiment of a Tweet. Hemment says that the team worked closely with a company called Lexalytics on semantic analysis software that would be able to define the emotion being expressed in a Tweet automatically.

‘It was surprisingly accurate,’ he says, after analysing the results, ‘We expected their to be some anomalies and false classifications, but it was actually very robust. A lot of the anomalies were at the level of individual messages, so when there’s an aggregation with millions of Tweets involved those even out pretty quickly.’

While the subject matter of emoto may seem slightly frivolous, the underlying motives are serious indeed. “Big data” has become a popular buzz-phrase describing the vast amount of information which is processed daily in the networks that dominate our lives. From social media to financial interactions, understanding the way big data works and the nature of its relationship to real human being has become one of the big questions of our time.

THE CREATIVE EXCHANGE

One of four KE Hubs for the Creative Economy funded by the AHRC, the Creative Exchange brings together creative sector businesses and connects them with digital designers, major corporations and leading researchers in the Arts and Humanities. Working in collaboration with everyone involved, CX helps to make connections between existing knowledge and brings in new knowledge where needed.

For further information on the Creative Exchange, please go to: www.thecreativeexchange.org

And Twitter is very much big data. According to internal strategy documents leaked to TechCrunch in 2009, one of the driving visions behind microblogging social site Twitter is that it will become “the pulse of the planet”. Now, in 2013, both the British Prime Minister and the US President use the service to break real news in short, 140 character updates, and around half a billion people worldwide use it to comment on everything from current affairs to announcing newborn children. It’s wouldn’t be too much of a leap to say that the goal has been achieved.

This pulse is constantly being taken: by businesses with an interest in marketing products, politicians looking to gauge the public mood and – as recent revelations have made clear – by intelligence agencies looking for and recording patterns in the way people interact online. But the tools the general public have to comprehend big data are still evolving, and a key goal for emoto was to explore new ways of showing data online and in the real world and making them accessible for all.

During the Olympics, the emoto tools fed into the festive feeling around the games, reflecting back to spectators the role that they played as they cheered or commiserated with the crowd, and provided media with Twitter-generated news stories too.

‘It was definitely interesting to see the difference between mass media reporting and what we found in the data,’ explains Moritz Stefaner, a freelance “information visualiser” and one of the key collaborators on emoto, ‘Some events happened only on Twitter, such as the harassment of Tom Daley. It was also



UNDERSTANDING THE WAY BIG DATA WORKS AND THE NATURE OF ITS RELATIONSHIP TO REAL HUMAN BEING HAS BECOME ONE OF THE BIG QUESTIONS OF OUR TIME FOR.



interesting to see the momentum Tweets can develop from celebrity involvement.'

Stefaner says that working on emoto led to a richer experience of the games on the whole, but he is aware of some of the projects limitations. Restricting it to English language Tweets, for example, automatically means that only a certain subset of opinions are going to be included in the visualisations.

'emoto revealed the kind of tension and contradiction we see in the emerging digital public space,' Hemment agrees, 'On the one hand, the "global village" is very much a reality because we can visualise millions of interactions in an instant. On the other, that isn't an unbiased view because we see the world through platforms and there's unequal access to those platforms.'

As well as immediate understanding of the public mood, the project was designed to provide something more tangible after the event too.

'After the games we milled 17 "theme" plates' says Hemment, describing a physical exhibition of emoto's findings, 'And the topography, the landscape of those plates represented the height of different emotional responses over time. Then we projected some of the key stories we discovered onto them.'

One of Hemment's collaborators on emoto, Stephan Thiel from Berlin's Studio NAND, says that one goal of the physical exhibition was to examine the question of what happens to a culture in which most activity takes place digitally.

'The core question,' explains Thiel, 'Is what remains of our digital activity today? Will people in 100 years' time be able to decipher the traces we leave behind? This question relates



to the theme of "legacy" which played a huge part during London 2012.'

Despite its highly abstract nature, says Thiel, visitors who saw the physical exhibition were highly engaged by it.

'It didn't take much to get even non-technical people introduced to the exhibition,' he says, 'As soon as visitors understood what they were seeing, they found it really inspiring and began to think of other uses for the same thing immediately.'

One of the challenges of putting together a project like emoto is to find and work with collaborators across different disciplines and, often, time zones. In order to facilitate this, the AHRC established four Knowledge Exchange Hubs to act as an online brokerage for both ideas and talent. As well as an academic and researcher, Hemment is also Deputy Director and Co-Investigator of one of these hubs, The Creative Exchange (CX). emoto proved to be a useful pilot project for his work with CX, helping to develop techniques for others to build on with future works.

Perhaps the most important lesson which emoto can teach, however, is one which isn't immediately obvious. Although social media like Twitter can seem to be replacing or augmenting other types of public forum, the emoto team ran into one of the most pressing problems of what happens when private companies control public space. Just weeks before the games began, Twitter changed its terms of operation and restricted access to the software interfaces emoto had been developed to use.

'Twitter switched to a more closed model, and pulled Tweets from third-parties so they could monitor and monetise them,' says Hemment, 'We had to build an entirely new infrastructure from scratch in two weeks, and that really highlighted the fact that the contemporary online landscape is very far from a public space. People invest huge amounts of their lives into these spaces, but they're privately owned and privately controlled.'

'We hope that emoto can be a reference point for a more open web,' he continues, 'By making visible some of the limits about what we could do and publishing the results, we hope we can generate debates around all these issues and contribute.'

For further information on emoto, please go to: <http://emoto2012.org>

THE CREATIVE ECONOMY IN NUMBERS

71.4 bn

The value of the Creative Industries sector per year, the fastest-growing in the UK (£)

558,000

people employed by the computer industry, the largest within the Creative Economy

44

per cent of all museum visits were made by overseas visitors

109 million

unique visits to the websites of sponsored museums in 2012/13

8.6

%age increase in jobs in film, television, music and software in recent years, bucking the national trend of 0.7%

5.6

%age of the UK workforce

5.2

%age of the UK economy (GVA)

238,000

people employed by the film and broadcasting sector

1.68 million

jobs in 2012, 5.6 per cent of UK jobs

16.1

%age increase of exports of UK creative services from 2009 to 2011 – one per cent ahead of the UK service industry as a whole.

47

million visits to the DCMS's 16 sponsored museums in 2012/13

10

%age growth in the sector in 2012, outperforming all other sectors of UK industry

9 million

visits to the sponsored museums by children aged 15 and under in 2012/13

7.2 bn

export of IT services, which leads the export field within the Creative Economy; followed by film and TV (£4.2m), and the music industry (£275m).

8 million

£s per hour generated by the UK's creative industries

9.4

%age increase in the Gross Value of the creative industries in 2012



THE DIGITAL REVOLUTION HAS MOVED COPYRIGHT LAW TO THE REGULATORY CENTRE OF THE CREATIVE INDUSTRIES



CREATIVE INDUSTRIES IN A KNOWLEDGE SOCIETY

CREATE

ONE YEAR ON



WHERE DO WE DRAW THE LINE BETWEEN INSPIRATION AND COPYING, BETWEEN INNOVATION AND FREE-RIDING? WHAT IS THE RELATIONSHIP BETWEEN AN OPEN TECHNOLOGICAL INFRASTRUCTURE AND PROPRIETARY SERVICES? **PROFESSOR MARTIN KRETSCHMER**, DIRECTOR OF CREATE, REFLECTS ON ITS FIRST YEAR.



Contested Policy Environment

The digital revolution has moved copyright law to the regulatory centre of the creative industries. For investors, copyright has developed into a currency; users struggle with rights clearance (or ignore rights altogether); creators seek ever new ways to the market. It is a world of believers and non-believers. We hear wildly conflicting claims about the value of intangible assets, about the benefits of open and closed models of innovation to firms and society, about the potential of massive collaborative projects (wikinomics), about the impediments that existing copyright arrangements pose for new derivative markets (mass digitisation, translation services, social media), and about the link between unauthorised consumer activities and lost sales.

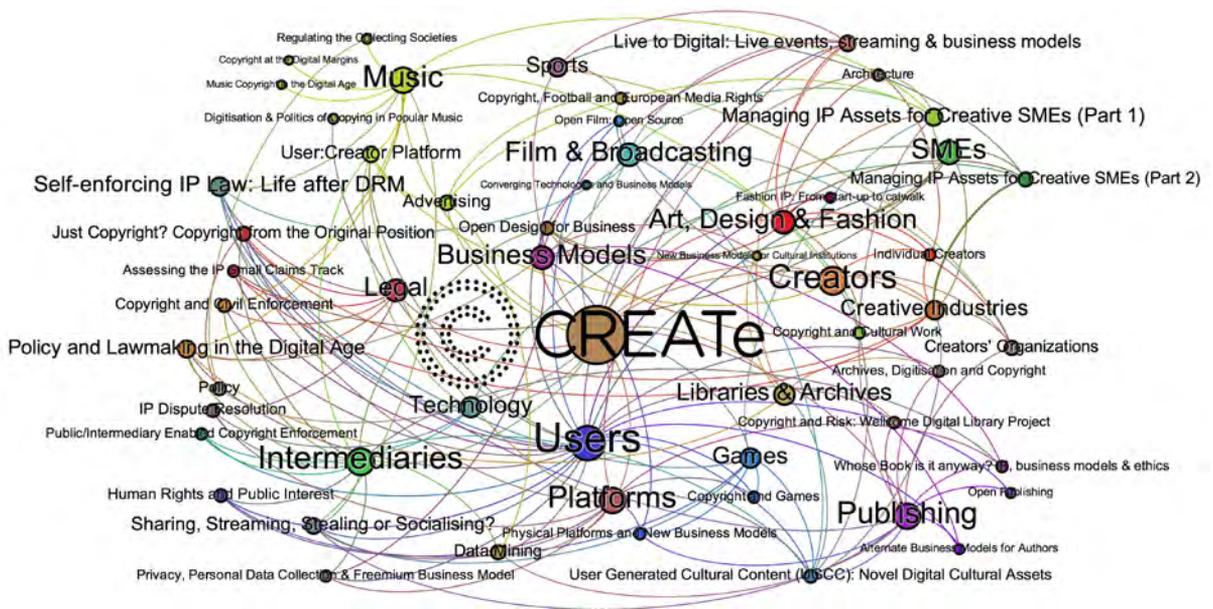
It is a particular challenge to establish a research centre in such a contested environment. The more urgent an independent approach becomes, the harder it is to achieve. Where myths and anecdotes rule, may transparency help? At CREATE, we are taking great care to expose our methodological approach and research designs to early scrutiny by academics, as well as industry and policy users of research. We document our major events scrupulously (we have welcomed close to 1,000 delegates to 20 events during our first year); we disseminate our research as working papers (15 as of March 2014); we run digital resources on our website (20,000 unique visitors from 149 countries).

First Results

Here are four examples where CREATE's research is beginning to change knowledge and behaviour in the creative and cultural economy.

Orphans and Archives: Archives as memory institutions are a significant source for learning and innovation, as well as of cultural value in their own right. In the UK alone, there are "up to 2,500 museums, 3,393 public libraries, 3,000 community archives, 979 academic libraries and approximately 3,500 trust archives" (IPO 2012). Many of the materials in these institutions are so-called "orphans", i.e. works in which copyright still subsists, but where the rightsholder, whether it be the creator of the work or successor in title, cannot be located.

CREATE has contributed to a report for the UK government assessing licensing and price options for the use of orphan works. CREATE also has scoped the Wellcome Digital Library's Codebreakers Project from a copyright and risk



viewpoint to assess the merits of the risk-managed approach to copyright clearance. This project is producing a digital resource that will include a risk management toolkit for cultural and archival institutions.

File-Sharing Evidence: On 11 April 2014, at Stationers' Hall (the 17th century livery hall in the City of London that has a claim to being the birthplace of the modern copyright system) CREATE is launching a behavioural economics analysis of all available empirical studies on file-sharing and unauthorized use. What is the evidence i) on the welfare implications of unlawful sharing of copyrighted media online; ii) on the proposed causes of unlawful file sharing? Propositions are visualised in a cubic space where the number of sources of evidence identified for each proposed determinant of unlawful file sharing are split according to evidence type and specific media. It demonstrates that our current knowledge of file sharing is dramatically skewed by method and sector.

Digital Assets On Death: A recently published paper by CREATE has explored major legal issues pertaining to transmission upon death of digital assets such as Facebook or

Google+ profiles; emails, tweets, databases; in-game virtual assets from Second Life, World of Warcraft), digitised text, image, music or sound, such as video, film and e-book files; passwords to various accounts associated with provisions of digital goods and services, either as buyer, user or trader (e.g. to eBay, Amazon, Facebook, YouTube etc); domain names; 2D or 3D personality-related images or icons such as user icons on LiveJournal or avatars in Second Life.

Copyright User: This is a multimedia resource aimed at helping creators, media professionals and the general public understand how to protect their work, how to license and exploit it, and how to legally re-use the work of others. A joint collaboration between CREATE and Bournemouth University, Copyright User builds up a picture of copyright reality from the most frequently asked questions (FAQs) online, and offers videos, interactive tools, and authoritative short essays. The resources are meant for everyone who uses copyright: musicians, filmmakers, performers, writers, visual artists or interactive developers. Copyright User is launched at the AHRC Creative Economy showcase today.

<http://copyrightuser.org>

Future: Open Knowledge Environment

It is a long term aim of CREATE to advance peer production of knowledge resources for the creative industries, creators and citizens. Digital technology allows new partnerships, and the integration of data from multiple sources: academe, government and industry. Digital technology facilitates a fundamental iterative process, linking knowledge creation, testing, dissemination and use. Universities have an opportunity and obligation to lead here.

For further information, and to access the resources highlighted above, please go to: www.create.ac.uk

ABOUT CREATE

CREATE is the Centre for Copyright and New Business Models in the Creative Economy, a national hub jointly funded by the AHRC (Arts & Humanities), EPSRC (Engineering & Physical Sciences) and ESRC (Economic & Social Sciences). CREATE is a pioneering interdisciplinary initiative, and globally the first effort to investigate the relationship between Creativity, Regulation, Enterprise and Technology (=CREATE) through the lens of copyright law.

MEET THE FUTURE OF NEWS

RESEARCHERS, BROADCASTERS AND GAMES DEVELOPERS ARE COLLABORATING TO HELP AUDIENCES ENGAGE WITH CONTEMPORARY NEWS THROUGH MURDERS COMMITTED 125 YEARS AGO, WRITES **ADAM OXFORD**



You are a trainee news reporter investigating a breaking story which will change the world. The crimes of the man you are following will fascinate the world for well over a century to come. They'll influence media and the way it is consumed now and in the future.

They will never be solved.

Should your investigations bear fruit, however, you will win the ultimate prize: your sketches of the gory events will take pride of place on the cover of *The Illustrated Police News*, a weekly publication which is cultivating a dubious reputation for sensationalist reporting in this pre-tabloid era.

The fact that you're doing all this in a videogame created 125 years after the infamous spate of grisly murders in and around the Whitechapel

district of London came to an end is purely incidental: the story of Jack the Ripper has fascinated and repelled audiences in equal measure since the events of 1888.

'I've always been fascinated by the subject' says Dr Tomas Rawlings, 'It's the archetypal mystery. They never found who did it. And as with a lot of the things that happened back then you'd like to say happened and that they're history, but quite often it seems as though we've learned nothing from it. That, really, was the starting point for this project'

Rawlings is the Design & Production Director for Auroch Digital, a Bristol-based games developer best known for its *GameTheNews* series of games. *GameTheNews* explores ways to help audiences understand contemporary news stories through videogames. The most successful

title in Auroch's newsgaming series is the highly acclaimed *Endgame: Syria*, but the firm has also tackled subjects such as the War on Drugs in Central America and the meat quality scandal in British abattoirs last year.

Now, Rawlings is also one of a team of collaborators on a project designed to mark the 125th anniversary of the Ripper murders, and tell the story as it's never been told before. *Jtr125* is being funded by REACT, one of four Knowledge Exchange Hubs for the Creative Economy funded by the AHRC, as part of a broader programme investigating storytelling in the digital age called "Future Documentary".

'We're calling it a "playable documentary"', says Rawlings, 'A game is, by and large, something set in a fictional universe in which fictional stuff happens. What's different between this and previous Jack the Ripper games is that we're going to be bounded by fact and deal with truth and interpretation through documentary.'

Although *Jtr125* is strictly a research project which hopes to find ways of introducing game elements to media coverage of serious issues, the team is keen to make it a product which could be commercially viable in its own right. Rawlings himself has just returned from the US where he met with Valve Software, the firm behind Steam, the popular gaming distribution and networking system which recently passed the milestone of 7 million concurrent users.

'I wanted to do something that we knew unashamedly people would be interested in,' says Rawlings, 'We did a Ripper tour of London as part of the research, and there were 200 people on it, on just an ordinary night.'

The Ripper story itself is one which often crops up during times of shifting media sensibilities. The events themselves marked a watershed in reporting styles, and contemporary coverage has been cited by no less a luminary than ex-Sun editor Kelvin Mackenzie as 'the birth of the tabloid press'. The story also influenced Sir Arthur

ABOUT REACT

REACT funds collaborations between arts and humanities researchers and creative companies. These collaborations champion knowledge exchange, cultural experimentation and the development of innovative digital technologies in the creative economy.

One of four KE Hubs for the Creative Economy funded by the AHRC, REACT is a collaboration between the University of the West of England, Watershed, and the Universities of Bath, Bristol, Cardiff and Exeter.

Conan Doyle and the genesis of the modern crime novel; it was one of the first films directed by Alfred Hitchcock; Alan Moore's meticulously researched graphic novel, *From Hell* – which Rawlings says one of the prime inspirations for the project – almost single-handedly established the comic book as a serious literary medium.

One area that the team is looking at closely is the question of what makes a documentary game different from a traditional videogame. Since the dawn of the videogame era, there have always been games packed with factual detail that has had an educational value. The strategy games in Sid Meier's *Civilisation* series come with an encyclopedia in the menu system, and serves as many young gamers' introduction to ancient civilisations and the progress of human societies. The *Total War* games likewise require the player to understand military and political issues of the eras in which they are set, and have been adapted for educational purposes, TV sequences and museum installations.

Dr Patrick Crogan is an academic at the Digital Cultures Research Centre, based at the University of the West of England. He's one of Rawling's main collaborators on the *Jtr125* project.

'The way the documentary and archival material is treated in commercial games like wargames and flightsims is much more about the hobbyist



or collectors type of knowledge,' says Crogan, 'It doesn't do much of what documentary ambitions try to do, which is to produce a discourse and argument about the way we understand the past. So we want to get into some detail about what it meant to be a woman or a prostitute in late nineteenth century London, for example, which was one of the toughest places to be alive at the time, a ghetto of industrialisation.'

The third main collaborator on Jtr125 is Professor Janet Jones. A documentary maker, journalist and lecturer, Jones has worked for the BBC's flagship news programs Panorama and Newsnight. She regularly consults with major broadcasters on the subject of news games, and says that many are investing heavily in the area.

'I genuinely believe that the way news is delivered is going to change,' Jones says, 'In five years time, in a news room, they expect to have a gaming desk, and games design will fit in with every production job in broadcasting and across the map. What games deliver over the standard, linear, broadcast version of story telling is that sense of immersion. That sense of opening up new experiences and new perspectives.'

Jones says that as viewers become more savvy with the mechanics of games, not only will they expect games to be as natural a part of the news "broadcast", but they'll be used to add dimensions to the story not possible via traditional means.

'One of the criticisms we always got on Newsnight,' Jones says, 'Was that we never provided enough of the background material, because there just isn't time in the traditional magazine show slot.'

Rawlings says that news organisations will have to adapt to survive.

'If you treat phones and tablets as a simple flat screen,' he says, 'You're going to be outcompeted by people who don't. News media are competing with Candy Crush for attention. The challenge facing news is to be as interesting as games.'

One of the key parts of the Jtr125 research programme will be to investigate the ethics of newsgaming, says Jones, and the team will be inviting a review committee from the BBC to assess the quality of the documentary aspect of the game in a couple of months' time, and to judge how the team have balanced aspects of gaming with the serious storytelling involved.

As well as that, they've taken part in a series of workshops, called "Sandbox" sessions, organised by REACT in which groups of teams working on similar research can share knowledge and feedback some early findings.

'The sandboxes have been a great resource,' says Rawlings, 'When we started, someone commented that we should make the most of this because it's an opportunity that won't come around again. It's completely different to the commercial process, which is about making quick decisions to hit deadlines. Here we have to take our time, try different approaches and experiment.'

They've also drafted in experts to provide voiceover commentary and background material to parts of the game that deal with London beyond the Ripper story. One little known tale that will be told, says Jones, is that of a newspaper editor who "bought" children and sold them into the sex industry in order to get the inside scoop. One of the key challenges is to balance this kind of straight informative sequence with the aspects that make a game engrossing.

'It's the area of the most lively and interesting debate between the team,' says Crogan, 'The ultimate experience of the game isn't about the 'whodunnit' and the enduring mystery, but we can't ignore that as it's what's make the story enduring.'

For further information, please go to: www.react-hub.org.uk/future-doc-sandbox/projects/2013/jtr125

BUILDING A CASE FOR RESEARCH

A NEW PROJECT IS LOOKING TO IMPROVE THE CONNECTIONS BETWEEN RESEARCH INTO OUR BUILT ENVIRONMENT AND ARCHITECTURAL PRACTICE

‘Architects have a habit of reinventing the wheel’ says Flora Samuel, Professor of Architecture at the University of Sheffield. That’s often because they, and construction companies, are ambivalent about academic research – there’s often a deep lack of understanding of the potential of research amongst practitioners, and even a hostility to the very word “research”. So while universities are churning out studies on what makes for a well-built house, say, practising architects and house-builders are often studiously ignoring them.’

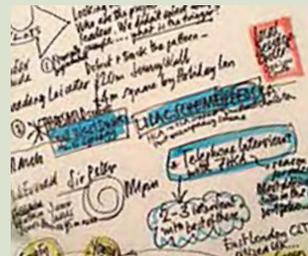
The built environment is perhaps the most visible aspect of the Creative Economy in the UK, and yet clearly all is not well within it. A new project, funded by the Arts and Humanities Research Council, aims to remedy this situation, by improving knowledge exchange between architects, academics and businesses in the home-building industry. “Home Improvements: improving quality and value in the provision of volume house building through architectural knowledge exchange” involves a collaboration between Edinburgh and Kingston Universities and led by the University of Sheffield, the Royal Institute of British Architects (RIBA) and the housing industry (including construction company Taylor Wimpey), to improve the quality of new housing, by improving communication and knowledge exchange between academics, architects and volume house-builders.

First, the project has involved a survey of all RIBA-accredited practices, showing that there is, indeed, a problem here. ‘We had a hunch that research was being under-used in the construction sector,’ says Flora Samuel, ‘but now we’ve shown that this is indeed the case. What we have discovered is that the research culture of architectural practices and volume house-builders is extremely undeveloped.’

Some of the responsibility for this may lie with architecture schools in the UK, which could do much more to promote research. But whatever its cause, the disconnect between researchers and the building industry is a serious issue, as the need for research-based practice grows ever more acute, both in terms of improving the quality of the UK’s housing stock, and helping the smaller architectural practices, in particular, to win contracts. ‘I’ve been a client adviser watching architects pitching for work,’ says Flora Samuel, ‘and seeing them make an abysmal job of it, when they could so easily refer to current research to back-up their case.’

The Home Improvements project has also involved funding a number of projects, to provide concrete examples of how research can be embedded in building practice. One has involved the creation of an information-rich website, encouraging people to custom-build their own homes. Another examined the way in which home owners use allocated parking spaces on new build estates, revealing that small changes in design could greatly improve relationships between neighbours and make a better environment at the same time.

The Creative Economy Showcase events also sees an interactive session exploring whether techniques borrowed from advertising could be used to ‘sell’ the idea of research to architectural practitioners. As Flora Samuel says, ‘architects are very visual people – it’s largely the image of knowledge exchange that needs to be improved.’ Britain’s homes will be the better for it, if the project succeeds.



LIGHTING THE FUSE

IT'S GOT A NICE (IF PEBBLY) BEACH. IT'S LESS THAN AN HOUR FROM LONDON. IT'S GOT GREAT CLUBS AND RESTAURANTS. BUT WHY ELSE IS BRIGHTON SUCH A HOTBED OF INNOVATION IN THE DIGITAL AND CREATIVE SECTOR, ATTRACTING SOME OF THE BEST AND BRIGHTEST TO WORK IN ITS MANY SMALL BUSINESSES? **MATT SHINN** INVESTIGATES

If you want to find out about how the arts, humanities and design can work together with digital technology and ICT, and make something greater than the sum of its parts, it's a good idea to start by looking at where this is already happening. Brighton Fuse is a two-year research project, supported by the Arts and Humanities Research Council, that is mapping Brighton's thriving cluster of creative, digital and IT (CDIT) businesses, to try to find the secret of their success.

The City of Brighton and Hove is home to one of Europe's most vibrant CDIT clusters. And since it has already successfully fused the cultural and creative sector with digital and technology industries, the city is an ideal place to analyse the contribution that the arts and humanities generally make to UK business innovation, and to test new ideas for future economic growth.

Dr Jonathan Sapsed is Principal Research Fellow at the Centre for Research in Innovation Management at the University of Brighton, and Principal Investigator for the Brighton Fuse project. He explains: 'Brighton Fuse came out of a report produced by the Council for Industry and Higher Education (CIHE), which identified issues around how arts and humanities skills can be combined with technical skills – something that's vital for new economic growth in this country. The idea was that Brighton was already there as a pre-existing example of how this can work well, but there was only anecdotal evidence for why it did. With Brighton Fuse, we're trying to provide hard evidence of how the arts, humanities, digital and IT work hand-in-glove in the most innovative companies, and to show that there's a link to growth.' The first Brighton Fuse project involved a consortium



of University of Brighton, University of Sussex, Wired Sussex with CIHE (now NCUB). It is now in its 2nd phase.

The project has involved a survey of around 500 companies in the Brighton

BRIGHTON FUSE PROVIDES HARD EVIDENCE OF THE ECONOMIC IMPACT OF THE ARTS AND HUMANITIES, AS DRIVERS OF INNOVATION AND GROWTH IN THE DIGITAL ECONOMY

'We as universities need to rise to the challenge' JONATHAN SAPSED



cluster, combined with face-to-face interviews to get a sense of context. And some of the results, which have now been presented in a research report, have been surprising. Nearly half of all the entrepreneurs in the sector were found to have arts and humanities degrees. And

those companies that were “superfused” – that bundled creative, digital and business skills tightly together – were growing three times faster than those that were barely “fused” at all (and ten times faster than the British economy overall), as well as having significantly higher levels of innovation.

Brighton rocks

So why should there be a digital and creative cluster in Brighton? According to Jonathan Sapsed, ‘clearly there’s an issue around quality of life here, with the town’s amenities and culture – the Brighton Festival, for example, is the biggest arts festival in England. Over 90% of entrepreneurs in the cluster have come to Brighton from somewhere else.’

Not that everything is perfect down on the South coast. The Brighton Fuse report also highlights some of the challenges facing businesses in the area. The high-growth, “superfused” companies, for example, were shown to struggle particularly in finding people with the right skills – people who are comfortable with creative design, but also with technology and business management.

‘There are implications in this for education in this country,’ says Jonathan Sapsed. ‘The academic system, with its siloed departments, is not set up to be “fused”. The way that research funding is allocated needs to reflect interdisciplinary work much more. And we as universities need to rise to the challenge, and make courses more interdisciplinary.’

And while the Brighton Fuse report found an unusual level of connectedness between businesses and universities in Brighton, this too could be improved upon. ‘We don’t necessarily need more spin-out companies, but there could be more student placements in businesses, more guest lecturers from industry, more joint projects between companies and universities.’

Time to get wired

As well as the Universities of Brighton and Sussex, the Brighton Fuse project is run by Wired Sussex, a membership organisation for companies in the local digital, media and technology sector.

For Wired Sussex’s Managing Director Phil Jones, it was important that the business community was engaged from the start in the Brighton Fuse project – ‘we were involved in drawing-up the survey questions, which helped to ensure that an unusually large proportion of companies filled in what was a detailed questionnaire. Research like ours only has value if it has significant scale.’

Despite already working closely with many of the businesses in the sector, Phil Jones was surprised by some of the survey findings. ‘We expected to see some use of the arts and humanities by tech companies, but we were surprised at how clear it was, that those that were fastest growing were those that used them most effectively – they were significantly more successful than purely technical companies.’

The Brighton Fuse project has also involved piloting schemes to promote further innovation and economic development. Wired Sussex have been developing courses for a local innovation space, called the Fuse Box: ‘with the Brighton Fuse project,’ says Phil Jones, ‘we knew we couldn’t just produce a report – we had to take a lead in acting on its findings. We’re trying to turn the Fuse Box into something like an art school for technologists, taking a multi-disciplinary approach, and combining creative, digital and IT skills together.’ Wired Sussex is also helping to re-shape the Brighton Digital Festival, to make it more ‘fused.’

Hard evidence

What are the lessons, then, of Brighton’s success? Clearly, there is much that policymakers can take from it: we are living in an increasingly convergent world, where former distinctions between the arts and digital technologies are blurring, and education and training have to reflect that.

As for what individual cities could do differently, it might not be possible for them exactly to copy what Brighton has done. As Phil Jones says, ‘every city has to build on its own unique strengths.’ At the same time, though, ‘other cities can learn one particular lesson from Brighton – we see the arts here not as something that’s funded after people have made money, but as a core part of value generation in the city.’

And this links to the overall point that, for Jonathan Sapsed, the project demonstrates. ‘Brighton Fuse provides hard, empirical evidence of the economic impact of the arts and humanities, as drivers of innovation and growth in the digital economy. The message of all this for policymakers is that there is a clear economic rationale for funding the arts and humanities.’

For further information, please go to: www.brightonfuse.com

ARCHIVES TO ASSETS

AESTHETICS, TECHNOLOGY AND HERITAGE ARE BEING COMBINED WITH BEAUTIFUL AND INNOVATIVE RESULTS

Most of us are familiar with QR codes – those patterns of black and white squares, a bit like a barcode, that you sometimes see on posters, and that your smartphone can instantly turn into web links if you take a photo of them. Most of us would agree, too, that these pixellated patches aren't exactly beautiful to look at.

But what if you could make much prettier patterns do the same job? A new visual recognition app developed by Aestheticodes, a company spun out of the University of Nottingham, enables you to do just that, creating all kinds of decorative patterns with codes embedded in them.

As the University's Professor of Collaborative Computing, Steve Benford, explains: 'Aestheticodes enable designs to be made interactive. You could incorporate them into furniture, or clothing, or ceramics, and they could be linked to the Internet in all kinds of ways. The design on a restaurant plate, for example, could take you to an online menu.'

The Aestheticodes app is currently being used in a project, supported by the Arts and Humanities Research Council, which explores new ways of engaging people with archives in the heritage sector. The Archives to Assets project, jointly run by Nottingham, Leicester and Nottingham Trent Universities, aims to make these stores of material easier to access and use.

The year-long project has involved eleven feasibility studies, with a particular focus on the industrial heritage of the East

Midlands. In the case of Aestheticodes, for example, the app is being used to tell the story of the lace industry in the area: new pieces of lace have been made for the project, with readable patterns ingeniously woven into them, which can take you to a website telling you all about the how lace was made, what it was used for, and who made it.

As Steve Benford says, the project relies heavily on collaboration – 'to make it work, we've involved not only the technical innovators at Aestheticodes, but also skilled designers, including students at Central Saint Martin's College of Art and Design, to create beautiful patterns for the codes to be embedded in.'

Other projects have involved heritage-related trails that you can follow, while receiving information from your smartphone about what you're looking at. There's a trail created by innovative mobile app designers Thinkamigo, for example, telling the story of coal-mining in the East Midlands, and another exploring Alan Sillitoe's Nottingham, based on the author's 1958 novel *Saturday Night and Sunday Morning*.

Another project involves using a Victorian relief map – the largest of its kind in the UK – in combination with the latest digital display techniques, to create an interactive exhibit telling the story of the map itself, and bringing to life the places that it shows.

In all these different projects, Steve Benford says, the idea is to bring commercial developers together with designers, and with scholars who are familiar with the content of archives, so that exciting new technology can be used to open-up heritage collections, giving people a deeper understanding of the past.

'What if you could use much prettier patterns to do the job of QR codes?' STEVE BENFORD



INSPIRED BY THE FBI'S LIST, A COLLABORATIVE RESEARCH PROJECT AT A SPECIALIST MUSEUM IS USING CROWD-SOURCING TO ENHANCE ITS OWN COLLECTION AND INSPIRE OTHER MUSEUMS, WRITES **ADAM OXFORD**

MOST WANTED

10

There aren't many obvious similarities between a Russian fraudster believed to have pocketed \$150 million from unsuspecting investors and a bright green plastic watering can. In fact, there's probably only one: they both feature prominently on a "Ten Most Wanted" website. Semion Mogilevich is number eight on the Federal Bureau of Investigation's (FBI) infamous "Ten Most Wanted" list, while the green plastic watering can is one of the first objects in a similarly titled experiment at the Museum of Design in Plastics (MoDiP) at the Arts University Bournemouth.

MoDiP's Ten Most Wanted was directly inspired by the FBI's list, which has been in circulation since 1949 and published on the internet for almost 20

This large radio with a grill front and round dial has a rounded edge and is covered in a patterned textured PVC. The dial has an injection moulded polystyrene cover. It has been suggested that the designer was a Mr Hoffmeister working to Ronnie Goodall.





I STARTED THINKING ABOUT THE COLLECTION AND THE FACT THAT THERE WERE ALL THESE UNKNOWNNS THAT YOU MIGHT REMEMBER OWNING OR THAT YOUR PARENTS OWNED



years. MoDiP, which has been around for 25 years, is the UK's only fully accredited plastics museum. Instead of catching criminals, MoDiP is hoping that its Ten Most Wanted will help to fill in gaps in its records relating to the provenance of the 12,000 objects currently in its collection.

The museum is run by Professor Susan Lambert, who in a previous role oversaw the establishment of the 20th Century Design Gallery at the V&A. The museum is unusual not only in its subject matter, but also in how it acts as a resource to academic researchers and contemporary designers alike. With so many objects in its archives and little space to display them, Lambert has been acutely aware of the power of the internet to access her collection since the museum was established.

'We see ourselves as an online museum as much as a physical one,' Professor Lambert says, 'We get used by researchers and students a lot, but also a lot by designers.'

Plastics, she continues, are a much overlooked part of modern history. While most design museums focus on a few well known designers or pieces, there's surprisingly little effort to catalogue the vast majority of manufactured plastics which have been so instrumental in shaping the cultural history of the last half a century or so.

'Documentation of objects is crucial to make them useful,' says Susan Lambert, 'The more you know about them, the more you can help people to use your collection. Plastic things have a tendency to be anonymous... It can be an awful lot easier to trace the provenance of an 18th Century teapot than a plastic beaker.'

This disposable nature of modern products means that there are large gaps in the documentation of many of the artefacts in MoDiP's collection. Plastics aren't hallmarked, like gold or silver objects, and often carry little information beyond country of manufacture – if that. There is one useful thing available to the curator of a museum

ABOUT THE DIGITAL R&D FUND

The Digital Research & Development Fund for the Arts is a partnership between, Arts Council England, the Arts & Humanities Research Council (AHRC) and the National Endowment for Science Technology and the Arts (NESTA).

The £7 million fund supports collaboration between organisations with arts projects, technology providers, and researchers. Awards of up to £125k for projects that use digital technology to enhance audience reach and/or develop new business models for the arts sector. With a dedicated researcher or research team as part of the three-way collaboration, learning from the project can be captured and disseminated to the wider arts sector.

Themes of the Fund

The Digital R&D Fund for the Arts is working to the following themes:

- **user generated content and social media**
- **distribution and exhibition**
- **mobile, location and games**
- **data and archives**
- **resources**
- **education and learning**
- **Big Data**

For further information:
www.artsdigitalrnd.org.uk

of plastics which isn't available to someone trying to provenance a late 18th century teapot: many of the objects held by MoDiP were made within living memory.





A turquoise, white and silver coloured ice bucket and tongs set. The ice bucket has a dribbled silver pattern and a inner liner with drainage holes in the bottom.

If the museum team want to know where a particular object was manufactured, why not ask the general public if they know?

The idea for Ten Most Wanted was conceived by Phil Blume of Adaptive Technologies, who had worked with Lambert on the design of the museum website. Together they sought funding from the Digital R&D Fund for the Arts – supported by NESTA, Arts Council England and the AHRC to help arts projects in England explore how digital technologies can help to engage audiences with art in new ways – to run the project as an experiment in “crowdsourcing” information of a high enough standard to be included in a museum catalogue. The model underpinning the Fund – which now has counterpart programmes in Wales and Scotland sees researchers brought together with technologists and arts organisations to explore questions around audience engagement and new business models, questions of central importance for the Ten Most Wanted project.

‘When we built the website, we linked all the data in the catalogue by taxonomy – designers, era, manufacturer, purpose and so on – so that you can navigate the collection easily and in multiple ways,’ Phil Blume says, ‘The idea was to make it very easy to use for a variety of purposes and by a variety of audiences. There was lots of data that was unknown, however, and about a year ago I was sitting here thinking about what to do next.

‘The buzz in the museum world at the time was around crowdsourcing, game play and how to use social networks to engage audiences,’ he continues, ‘I started thinking about the collection and the fact that there were all these unknowns that you might remember owning or that your

parents owned. These are not objects that are lost in the mists of time – it’s not Ancient Egypt – many are still available today.’

Crowdsourcing – drawing information from the “crowd” using online tools – has been used by museums and other academic researchers before, but in the past has been restricted to relatively manual, unskilled tasks which can’t be performed by computers.

The most famous is arguably Galaxy Zoo, an astronomical research site in which the general public sifts through photographs taken by space telescopes and identifies the shape of extra-terrestrial objects captured within. The number of images is too large and the shapes of galaxies too faint to be reliably classified by computer algorithms, but humans are very good at basic pattern recognition. Anyone can take part in Galaxy Zoo, and if enough people independently agree there’s something interesting in an image, it will get examined by professional researchers and possibly classified as a new galaxy.

This is the “gamification” of science, a simple game to play in which the reward is adding a small amount to the sum of human knowledge. It’s also very popular, and hundreds of thousands of people take part in Galaxy Zoo.

When it launches in October, however, MoDiP’s Ten Most Wanted project will be asking a lot more of its volunteers than clicking through a long list of images. Unlike other academic crowdsourcing exercises, Ten Most Wanted will ask people to become investigative researchers in their own right, not just offering suggestions but helping to verify new data with site visits, interviews and photographs. They’ll be guided primarily through a Facebook group and discussions on the 10 Most Wanted site.

‘We’re trying to give people real problems to solve,’ says Phil Blume, ‘We don’t know where the trail ends for a lot of these objects. It could be a design office in Hong Kong or Milton Keynes, and you won’t find it by tapping on a keyboard.’



WE DON'T KNOW WHERE THE TRAIL ENDS FOR A LOT OF THESE OBJECTS. IT COULD BE A DESIGN OFFICE IN HONG KONG OR MILTON KEYNES, AND YOU WON'T FIND IT BY TAPPING ON A KEYBOARD.



Hopefully, he continues, Ten Most Wanted will also prove useful as a promotional tool for the museum, increasing the number of visitors to the collection itself too.

Lambert is well aware that this may be too much for the prospective audience, but believes that there's value in trying Ten Most Wanted all the same.

'Our focus isn't about finding stuff out about objects,' Professor Lambert is clear, 'It's about coming up with a methodology other museums can copy. The end of the project will see the final reports being written and the research and learning resources gathered together and disseminated.'

In order to help increase the probability that the Ten Most Wanted project is effective and to ensure that it is documented correctly for others to follow, MoDiP brought in a research specialist in the area of human computer interaction (HCI), Marcus Winter of the University of Brighton.

'My personal interest is in user-generated content,' he says, 'Ten Most Wanted fits really well into that. There are lots of game-based

crowdsourcing initiatives but they all follow a fairly lightweight model where very simple little bits can be dished out that don't require commitment or specialist knowledge.'

Susan Lambert, for her part, has tried to make the initial ten objects as interesting and as varied as possible, including objects from overseas to try and interest an international audience in her line-up. She's already canvassed support from British Plastics and Rubber magazine, and the Plastics Historical Society. The first ten objects – including green plastic watering can – are online now, and there's another 40 which have already been selected to replace them should the initial objects become fully researched or fail to stimulate interest.

She's also already thinking about other collections that could benefit from the 10 Most Wanted idea if it proves successful, including film posters, photographs and more. She'll know for sure come April next year.

For further information about this project please go to: <http://10most.org.uk>

Part of a pale blue tea set
manufactured by W R
Midwinter Ltd in the 1960s.



THE CREATIVE ECONOMY IN WORDS

In the REACT Hub we're fostering new networks of relationships between research and business. We're showing how creative businesses can benefit from the depth of expertise that Arts & Humanities researchers can offer them. Collaborative journeys are producing an amazing range of new products and services for innovative businesses and offering academics new ways to do research.

PROFESSOR JON DOVEY

PROFESSOR OF SCREEN MEDIA, UWE AND DIRECTOR OF REACT



The Creative Economy is of the greatest importance to the economic health and the cultural life of our country. We are in the midst of the profound transformations brought about by the digital revolution. Understanding these changes, and the challenges and opportunities they present, is crucial to our future.

PROFESSOR RICK RYLANCE
CHIEF EXECUTIVE, AHRC



The creative industries are full of dynamic, highly motivated and successful people who have ensured the UK's unique creativity is world-renowned. They make a massive contribution to the UK economy, to the tune of £36 billion each year. They are in an excellent position to help drive economic growth.

ED VAIZEY

MINISTER FOR CULTURE, COMMUNICATIONS AND THE CREATIVE INDUSTRIES



Without academic research, much of the Creative Economy simply wouldn't happen. Researchers are often able to put in the thinking time that's needed to come up with innovative ideas. They can provide research evidence for why a particular approach has worked, and why it might be replicable. They produce content that the Creative Industries use.

DR EMMA WAKELIN
ASSOCIATE DIRECTOR AHRC



The UK has a thriving creative industries and design sector, which is not only highly innovative but also supports innovation in other sectors.

RT HON DAVID WILLETTS MP
MINISTER FOR UNIVERSITIES AND SCIENCE



The creative industries are celebrated as a great economic success story of recent years, even in the context of the recent recession. They have outpaced other sectors of the UK economy in employment, growth and profitability. Our creative industries provide a strong competitive edge in global markets.

SEBASTIAN CONRAN

DESIGNER



In my experience I believe there are two creative economies, both crucial to the future health of the UK. The immensely important Arts and Heritage sector is already well documented. In addition there is a growing economy as part of a true collaboration between the arts and industry. Exemplified by the groundswell towards the physical object created through digital technologies such as 3D printing. The UK leads the world in its creative approach to these technologies which we must continue to support.

PROFESSOR STEVE HOSKINS

HEWLETT PACKARD CHAIR OF FINE PRINT UNIVERSITY OF THE WEST OF ENGLAND



The accumulation of knowledge, wisdom, context, craftsmanship and the made world around us is more than the background for our lives. It's the map from which we can make sense of where we're going. The Arts & Humanities are essential to understanding where society has been and what our direction should be. They feed the soul and engender well-being. They tell us who we are.

KEVIN McCLOUD

ARCHITECT AND BROADCASTER



The Creative Industries consistently punch well above their weight, outperforming all the other main industry sectors, and are a powerhouse within the UK economy. We are committed to ensuring that the energy, innovation, skills and talent existing in this dynamic sector continues to translate into economic success, and provide a remarkable platform from which, we can showcase Britain to the world.

MARIA MILLER MP

SECRETARY OF STATE FOR CULTURE, MEDIA AND SPORT



Our experience on Creative Exchange is that there is a great demand from public and private sector for collaborative networks of academics, young scholars and creative companies to address challenges and opportunities that arise from the development of digital technologies and their potential in media, government, and commerce. This opportunity requires nimble approaches to convening networks, undertaking fast projects and trailing ideas and prototypes. These new configurations demand flexible and adaptable research and development support such as the AHRC knowledge Exchange programme sponsorship alongside that from arts council, Nesta TSB and other agencies. This approach will enable our emerging companies in the creative economy to prosper.

PROFESSOR RACHEL COOPER OBE

CHAIR, LANCASTER INSTITUTE FOR THE CONTEMPORARY ARTS



Intellectual Property frameworks as much as the business models in the Creative Economy need transformation. Universities are in a unique place to be able to contribute to this debate and hopefully influence policy. Entrepreneurial thinking is a core element of creative and critical thinking, and I hope that this will become something that is developed more at Universities and inform the Creative Economy.

SIÂN PRIME

DIRECTOR, MA CULTURAL & CREATIVE ENTREPRENEURSHIP ICCE GOLDSMITHS



Few people realise that the creative and cultural industries are now the most dynamic sector of the British economy. As with any industry, that dynamic relies upon a core of research activity. As research 'champion' for the sector the AHRC is doing a splendid job with very limited resources. All power to its elbow.

BARONESS SHARP OF GUILDFORD

SCIENCE POLICY EXPERT AND CHAIR OF THE HOUSE OF LORDS COMMITTEE ON SCIENCE AND HERITAGE



RAISE A GLASS



JAMES BROWN HAS WHAT MUST BE ONE OF THE MOST ENVIABLE OF JOB TITLES: HE IS HEAD OF BEER TASTING AT **BEER52**, A FAST-GROWING AND INNOVATIVE ONLINE BEER-ORDERING SERVICE WRITES **MATT SHINN**.

The idea behind Beer 52 is a simple one. For £24 a month you are sent a mixed case of eight craft beers, from independent micro-breweries. As you try each beer you get to discover the story behind it, you're encouraged to interact with the brewers via social media, and if you particularly like what you try, you can order more from Beer52's online beer shed.

As well as giving the consumer something new, this is a service that really helps the small brewers. There are over a thousand micro-breweries in the UK, who, despite having a world-class product, often produce only on a very small scale, and sell only locally. They don't have the marketing budget to compete with the major brands, or to get onto the shelves of the big supermarkets. But this way, they don't have to.

Design in Action

According to James Brown, who is also Beer52's founder, the company's origins lie in a road trip he'd taken with his father, from Edinburgh to Faro in Portugal. 'Along the way we tried all kinds of craft beers that we came across,' he says, 'and I got a real taste for them – before, I'd just drunk anything.' He thought: why not turn this new-found passion into a full-time job?

Getting a business like Beer52 off the ground is all about the details, though. And in this, James had some highly specialised help.

The model for Beer52 was hammered-out during a Chiasma residential workshop, which was focused on the artisan food and drink sector in Scotland, and the question of how design could be used to help it grow, without losing the unique nature of the produce that was being sold. The event brought entrepreneurs together with designers,

'As you try each beer you get to discover the story behind it'



THE MODEL FOR BEER52 WAS HAMMERED OUT DURING A CHIASMA RESIDENTIAL WORKSHOP, WHICH WAS FOCUSED ON THE ARTISAN FOOD AND DRINK SECTOR IN SCOTLAND



'It involved examining the research evidence for showing what works...'

BRIAN MCNICOLL
DESIGN IN ACTION

academics and food producers, to collaborate and develop innovative ideas. Teams that were formed during the event were then able to bid for funding of up to £20,000, to help with the process of commercialising their ideas: Beer52 received one such award, to develop a prototype.

The Chiasma event was run by Design in Action, the Dundee-based Knowledge Exchange Hub, supported by the Arts and Humanities Research Council. The idea of Design in Action is to help businesses "join the dots" – developing new ideas and new ways of doing things, by coming together with academics, designers and other creative types. Design in Action focuses particularly on five key sectors: food, information communications technology, wellbeing, sport and rural economies.

Design in Action emphasises the fact that, given the right environment, great new ideas can be sparked in unexpected ways. And James Brown's experience with Beer52 seems to bear this out: 'I'd actually gone to the Chiasma event to pitch for something else,' he says. 'I had the idea for Beer52 in the car on the way up there.'

But James, who has a background in online marketing, then found the input of designers and academics enormously helpful, in fleshing-out his original concept: 'having the chance to test the idea, with people from different backgrounds, was invaluable. Beer52 wouldn't have existed without it.'

According to Brian McNicoll, who is Design in Action's Business Partnership Manager, the contribution of design and academic research to Beer52 was very much in fine-tuning the business model which it is based on. 'It involved thinking about the different kinds of customers who the service might be aimed at, about how regularly the orders should go out [as the name implies, Beer52 was originally planned as a weekly service], about how the beer should be packaged, and about how the website should look. And it involved examining the research evidence for all of this, showing what works.'

Then there are the little details, like the snacks that are included, for free, with every delivery ('people in the UK really love their freebies'). There's the emphasis on the social aspects of subscribing – visitors to Beer52's website are encouraged to give subscriptions as presents, for example, as well as to discuss the beers they like with other subscribers.

These things, together with a constantly varying mix of beers, with different flavours and from different kinds of breweries, are designed to keep people interested – to make the process of sampling craft beers fun.

DESIGN IN ACTION - WHO ARE WE?

We started off as six universities funded by the AHRC to do something new. Now 'we' can include you too. We are a growing network of business people, academics, designers and creatives who want to find new connections and new ways of doing things. The 5 key sectors we are looking at are Food, Information Communications Technology, Wellbeing, Sport and Rural Economies.

The project is led out of Duncan of Jordanstone College of Art & Design at the University of Dundee. We are funded by the Arts and Humanities Research Council. The principal partners are:

- The University of Abertay
- The Glasgow School of Art
- Gray's College of Art at the Robert Gordon University
- Edinburgh College of Art at the University of Edinburgh
- St Andrews University

For further information, please go to:
www.designinaction.com



DESIGN IN ACTION EMPHASISES THE FACT THAT, GIVEN THE RIGHT ENVIRONMENT, GREAT NEW IDEAS CAN BE SPARKED IN UNEXPECTED WAYS



The aim of Beer52 is to build up a culture of beer appreciation, among people who might not currently know any better. As James Brown says, 'we launched Beer52 just at the right time – when there's a real trend towards authentic, locally-sourced food and drink. We're not just trying to find real ale enthusiasts and give them beer – we're trying to reach people who are like I was – bored of the same old stuff, and willing to explore something new, given half a chance.'

Success brewing

And the signs are that Beer52 has found just the right recipe for its customers. The speed of the company's growth has been phenomenal: after the initial Chiasma event in April 2013, Beer52 was launched in August, through an offer on the discount website Groupon. It broke Groupon's UK sales record, selling-out in 48 minutes, and it is now the largest craft beer club in the country, with over 2,500 full-paying subscribers throughout the UK. As James Brown says, 'we became a million-pound business in three months.'

And that growth looks set to continue, after Beer52 raised £100,000 through crowdfunding,

WHAT IS A 'CHIASMA'?

A chiasma is about creating new ideas within the timeframe of a workshop – generating new ideas in collaboration with others in an intensive residential environment, usually between 2-3 days.

For further information go to: www.designinaction.com/chiasma

at the end of last year, to help it increase membership and make improvements to its website ('when customers can't touch your products before they buy them,' James Brown says, 'your website really has to be beautiful'). One investor put up £30,000, and will now receive free beer for the rest of their life.

So raise a glass to Beer52. And if the job of being a beer taster appeals, they're currently advertising for an intern to do just that...

'The signs are that Beer52 has found just the right recipe for its customers.'



SOUND & VISION



INNOVATION, NETWORKING AND COLLABORATING ACROSS DISCIPLINARY BOUNDARIES ARE KEY TO ONE RESEARCHER'S MULTIPLE SUCCESSES, WRITES **MATT SHINN**

The way that the Creative Economy works can be unpredictable: something that's developed in one context can turn out to have commercial applications in quite another.

A case in point is the work of Dr Mick Grierson, who is Director of the Creative Computing Programme at Goldsmiths, University of London. Mick Grierson makes interactive tools that allow you to produce sound and images through physical movement. He works at the forefront of "interface technologies," which deal with the different ways that people can interact with computers. And as he says, 'these days, that can mean much more than just using a mouse and keyboard: it covers everything from voice recognition software to technology that enables you to control an external device using your thoughts alone.'

As new technologies become cheaper, so they become available for mass production. And among other things, that makes it possible to enhance the lives of people whose everyday experience is very different from that of the majority. Much of Mick Grierson's work, which he has developed through a Knowledge Transfer Fellowship from the Arts and Humanities Research Council, has involved using research in the electronic arts for the benefit of people with disabilities, helping them to engage with sound, music, visual media and communications.

NoiseBear

One of the things that he will be demonstrating at the Creative Economy Showcase event will be a special cuddly toy, which can be used to control digital sounds. Called NoiseBear, it was designed for, and with the help of, disabled children – it is a wireless device that can respond to very small movements, meaning that you can make music (via an iPad) with little squeezes and shakes of the hand. As Mick Grierson says, 'the NoiseBear system can be put into all kinds of toys that children might want to play with, and it is robust enough to withstand a fair amount of knocking about.'

Heart n Soul

Also being demonstrated at the Showcase event will be technology developed in association with Heart n Soul, a creative arts company which focuses on disability culture.



MICK GRIERSON'S WORK DRAWS ON RESEARCH INTO PERCEPTION AND COGNITION, MEDIA ENGINEERING, MUSIC THERAPY, INTERACTIVE GAMING, AND AUDIOVISUAL ARTS



Mick Grierson – his primary driver is 'to develop tools that can do something exciting – the commercial aspect flows from that'



Heart n Soul's Dean Rodney Singers project was commissioned for Unlimited, a festival celebrating disability arts, culture and sport as part of the London 2012 Cultural Olympiad. Led by autistic artist Dean Rodney, the project involved over seventy band members – musicians, singers and dancers – from seven different countries. Innovative web technologies developed by Mick Grierson enabled the band to work together online, creating dynamic new music, dance and video. Songs were created using tablet computer apps, with each band member making their own versions of Dean Rodney's original pieces of music. When an interactive installation was presented at the Royal Festival Hall, as part of the Unlimited festival, the audience were then able to create their own dance and music videos, and become part of the Dean Rodney Singers band themselves.

Roll7

Mick Grierson's work takes a multidisciplinary approach, drawing on research into perception and cognition, media engineering, music therapy, interactive gaming, and audiovisual arts. It has had a clear, positive social impact for the people with disabilities who have helped to design the new technology, and who use the products that he has come up with. But it is also set to have an economic impact, because of its potential in a very different context.

Some of the technologies that Mick Grierson has developed in conjunction with people with disabilities have now been made available, under license, for commercial development. He has been working especially closely with Roll7, a digital games design company: among Roll7's sound-driven computer games that draw on Mick Grierson's research is BeatFighter, a rhythm-based beat-em-up game that allows players to fight along to any track in their iTunes Library. The innovative software that

the game uses is able to analyse any piece of music, and match changes in gameplay to changes in mood in the accompanying soundtrack, creating an emotionally intense experience for the player – if you know your playlist well you can even anticipate when things are going to get lively.

Other music analysis software is available, but it needs time to load at the beginning of a game – with BeatFighter you can add your playlist, and it will be played instantly, shaping the kinds of scenery that you see in the game, and the enemies you come across. Grieg's "In the Hall of the Mountain King," apparently, produces some particularly manic effects as the music builds up, and Daft Punk also works particularly well. You can have a look at BeatFighter, too, at the Creative Economy Showcase.

Better together

Mick Grierson's work is a very good example, then, of how knowledge exchange can work in the Creative Industries. Roll7 and Heart n Soul are actually based just around the corner from each other in Deptford, but before working with Mick Grierson they hadn't been aware of each other. Now, using technologies developed in association with Heart n Soul, Roll7 have been able to get their first mainstream funding (including being commissioned by Sony Entertainment), and develop other strands of their business.

Roll7's Director Tom Hegarty says that the collaboration with Mick Grierson's team at Goldsmiths shows up some of the differences between working as a university researcher and as a commercial developer. 'In a university, once you have your funding, you can then concentrate on what you're doing – but for us, we have to think about cashflow all the time. Mick's primary driver was just to develop tools that could do something exciting – the commercial aspect flows from that.'

Collaborating with a university, says Tom Hegarty, 'has helped us bring in extra money, as it makes our work look more robust.' His advice to other companies is to ensure, before collaborating with an academic partner, that there is a good fit with the technology involved – 'don't bend what you're doing to the technology, just for the sake of collaboration.'

But when there is a good fit, if the opportunity is there – take it. 'Collaboration has been invaluable to us. It's enabled us to think creatively, and in an entirely different manner.'

DEAR ESTHER

AN OPEN LETTER FOR STORY TELLING IN GAMES

ACADEMIC STUDIES ABOUT VIDEOGAMES ONLY TEND TO GET NOTICED WHEN THEY TALK ABOUT WHAT GAMES DO, RATHER THAN WHAT THEY ARE. DO GAMES IMPROVE MANUAL DEXTERITY? ARE THEY ADDICTIVE OR DANGEROUS? WILL THEY MAKE US CLEVER? ARE THEY MAKING US STUPID? **ADAM OXFORD** INVESTIGATES.

Dan Pinchbeck, creator of 'Dear Esther'



Such laudable and headline friendly research often overshadows work of a more critical nature, but rarely – if ever – does either have any effect on the actual production of videogames themselves. Thanks to funding from the AHRC, however, one Research

Fellow at the University of Portsmouth has gained international recognition and generated thousands of pages of enthusiastic and practical debate not about what games are or do, but what they can be.

His name is Dr Dan Pinchbeck, and in order to engage the right audience for a discussion about the nature of narrative in videogames he didn't publish an academic paper: he made a game.

The game is called Dear Esther and has been described by The Daily Telegraph as "a beautiful and thought provoking piece of work". It has won awards for story telling and visual art, and received accolades from reviewers worldwide. Most importantly, it's also been a commercial success, recouping its development costs within six hours of going on sale in February 2012.

Pinchbeck describes Dear Esther as 'an interactive ghost story,' and he began working on it as a vehicle for exploring story telling in games.

'My PhD application was to look at how you can use story in virtual environments to increase the sense of immersion and presence,' Pinchbeck explains, 'How to think about story as a specific tool for user engagement.

'I had an epiphany moment when I realised "why am I looking at virtual environments when games are much more



interesting?'. They already use content, character and plot to manipulate the player experience, so I shifted over to looking at story as a gameplay function in first person games.'

With Dear Esther, Pinchbeck wanted to find out what happens if you pare a game experience back until all that's left is the story. The result is something compelling and unique. It begins as the player takes control of an unnamed and unseen avatar and wades onto the foreshore of a remote and uninhabited Scottish island.

As the player progresses around the island and through an underground cave network, three intertwining stories are revealed which involve a Scandinavian hermit, a syphilitic 18th century explorer with a laudanum habit and a possibly drunk pharmaceutical salesman called Paul. The crux of the narrative is that while returning from a sales conference in Exeter, Paul's car collides with that of the eponymous Esther, killing her.

The stories are revealed through fragments of letters to Esther read by a narrator, which are triggered as the player passes over particular locations. Each audio clip is selected at random from a selection of potential audio cues, which means that the entire script can't be heard in one play through.

Even if every fragment was at your disposal, however, it's never made clear exactly what the relationship between the main characters is. Neither is it explicitly stated whether or not the narrator's voice is that of the player's avatar or someone else, or even if the narrator is Esther's husband, lover or killer.

'We basically decided we had to give you the tools to create your own version of what's going on,' says Pinchbeck, 'It's about creating a space with these ideas in, and your interpretation of it is equally as valid as anyone's, including the authors.'

As the player gets closer to the climactic end sequence the stories overlap, leaving you unsure whether or not the key characters are "real" or simply ciphers for a distressed state of mind. The game environment also becomes more surreal, with rocks daubed in ever more frantic pieces of phosphorescent graffiti showing chemical symbols, Biblical quotes taken from Paul's conversion in Acts and electrical circuit diagrams – including one for anti-lock brakes.

Within this all this deliberately confusing symbolism, however, the key point about Dear Esther is that most of the elements traditionally associated with a videogame have been stripped out. As a player, you're unable to make your character run,



THE AIM OF THE PROJECT IS TO INCREASE APPRECIATION OF VIDEO GAME ART AND DESIGN AS A CREATIVE EXPRESSION AND SOCIAL FORM



GAME ON

A new project is bringing together games designers and developers, museum professionals and academic researchers to take video games into museums.

Perhaps not surprisingly – given how much they contribute to our national coffers – we take video games pretty seriously in this country. UK universities were amongst the first to offer Games Design as a subject for degree-level study (students can now choose from over seventy different courses). And computer games are set to take another step towards respectability, with a new project, jointly run by the University of Abertay Dundee and the Victoria and Albert Museum.

The project, entitled Video Games in the Museum, aims to take computer games out of the home and arcade, and into museum collections. Its aim is to create protocols for the way that games are interpreted and displayed, so that they can be understood like other cultural artefacts.

As Gregor White, Director of Academic Enterprise at Abertay's School of Arts, Media and Computer Games, puts it: 'until now, there's been a huge diversity in language, approach and process when it comes to computer games, with different design studios having

THE PRINCIPAL PARTNERS IN THE PROJECT ARE WELL-QUALIFIED TO BE INVOLVED IN IT: ABERTAY LAUNCHED THE WORLD'S FIRST DEDICATED COMPUTER GAMES DEGREE IN 1997

their own vernaculars to describe what they do. The challenge is to create a kind of taxonomy for video games, to help people understand all the different processes involved in making them. In this we're like Victorian collectors, trying to make sense of a whole new area of study. But fortunately the V&A have been doing this for over a century, collecting, naming and organising the things created in different cultures.'

With the help of a network grant from the AHRC, the project is bringing together international experts in games design and development (including industry players such as Sony and Microsoft), museum professionals, and academic researchers with an understanding of games development as a design process, and games as a cultural phenomenon.

The principal partners in the project are well-qualified to be involved in it: Abertay launched the world's first dedicated computer games degree

in 1997, and continues to have an international reputation for excellence in video games education, while in May 2013 the V&A appointed its first ever Game Designer in Residence.

The project also involves developing a protocol for the acquisition of video games, so that museums can reflect in their holdings the full breadth of the video game form.

In the case of the collection that the V&A is currently building up, the aim is to offer games design researchers around the world a dedicated resource built on internationally recognised research. Displays will make clear what is really going on in each game, both technically and in terms of the conceptual and commercial decisions that helped to shape them.

The collection will help innovation and design excellence in video games to be recognised for what it is. It will encourage the video game industry to consider its own legacy, in relation to archiving and public understanding. And it will help to deepen understanding of the sociological context of video games, creating a platform for debate, for example, about their ethical implications.

The ultimate aim of the project is to increase appreciation of video game art and design as a creative expression and social form, to the long-term benefit of the games industry in the UK.



Dare to be Digital, a video game development competition for talented students at universities and colleges of art, organised and run by Abertay University



SALES OF GAMES IN THE UK OVERTOOK VIDEO, MUSIC AND BOOKS LAST YEAR, MAKING THEM THE PRIMARY CULTURAL MEDIUM FOR MANY YOUNG PEOPLE



jump or interact with objects, and there are no puzzles which impede your progress along a predetermined path.

There is the story, told through the narrator's voice, the musical score and the landscape, and little else. It's also short, designed to be played from start to finish in one sitting in about an hour and a half. This has led many to question whether or not Dear Esther is a game or, as one fan describes it, a 'virtual art installation'.

Pinchbeck believes that the "game" of Dear Esther happens away from the screen as players piece together what has happened.

'People struggle to identify it as a game not because you don't have a shotgun to face down armies of zombies,' he says, 'You have an awful lot of work to do as a player, but it's not involved in the mechanical act of negotiating the environment.'

Certainly Dear Esther has provoked a reaction in its audience. Aside from its overall popularity, selling 50,000 copies in its first week, few games have been so thoroughly deconstructed by players. There are forums dedicated to analysing every sign and building within the landscape for meaning – even typographical errors in the subtitles.

'One of the major things that's come out of the feedback from the commercial release,' explains Pinchbeck, 'Is that the players' imaginations rush into the vacuums we created and fill them with experience.'

Alec Meer is a founder of the leading PC games site Rock, Paper, Shotgun (opens in a new window). He says that Dear Esther is one of a few games that are tapping into players' desire for something outside the often formulaic design of major releases.

'Between Dear Esther and the more ostentatious Journey [released on the PlayStation 3 in March 2012 (opens in a new window)], it's clear that there's more of an appetite for esoteric gaming than might have been expected,' Meer says, 'Esther's particular appeal is that it combines a thoughtful pace and an open-ended tale with the kind of production values usually only seen in morally bankrupt odysseys of violence.'

One player who was especially moved by it was Robert Briscoe. In 2009, the 3D artist and level designer had just finished working on a game called Mirror's Edge for the Swedish company DICE, when he tried the original version of Dear Esther.

'I was looking to take a bit of a break and I came across Dear Esther,' says Briscoe, 'And what really blew me away was the idea that you can tell a story through exploration and that the environment can be more than just a backdrop. That it's an integral part of the story telling process was really interesting.'

The first release of Dear Esther had been produced using basic visual tools and released for free as a "mod" for the popular game Half-Life 2. Briscoe took this initial version and remodelled the landscapes using more modern software, adding in more details and a sophisticated lighting engine. This made the environments more realistic and gave the whole game a more surreal feel, particularly in the cave and night time sequences which are lit with an unworldly glow from bioluminescent moss and phosphorescent graffiti.

It was Briscoe's work that led to the Independent Games Festival Award for Visual Excellence, and one reviewer to comment that he'd stopped playing the game and was just taking screenshots, as if photographing the island.

Briscoe says that he's learned a lot of valuable lessons for future projects.

'There's a lot of emotional story telling within the environment,' he explains, 'A lot of subliminal signposting... It's a really good example of what players are looking for in games, how far they are willing to go outside the norms of traditional gameplay to have an interesting experience. It gives other developers an idea of what can be done with games as a medium.'

This is where the potential of exploring videogames in an academic environment come into their own. Sales of games in the UK overtook video, music and books last year, making them the primary cultural medium for many young people. But commercial developers operate under restraints that can prevent the format from maturing.

'If you're a game developer, you've obviously got high risk areas and low risk areas to work in, and what you're trying to do is build and innovate within a low risk area,' says Pinchbeck, 'If you're an academic you can take risks in a completely different way. We can fail, providing we can fail in interesting ways. And that has a direct benefit to the games industry, because we can say we tried this, and it works and no-one's doing it.'

Pinchbeck believes that the research model he's followed should be repeated more often if universities are to have a

meaningful dialogue with the gaming industry beyond mere analysis or finger waving. He's already begun work on second project, *Everybody's Gone To The Rapture* that expands upon the ideas of *Dear Esther*.

'It was important to me to be able to show that universities can do this stuff,' he explains, 'If academics want to do stuff

that might be interesting to the games industry, don't write a paper, make a game. It teaches you a lot about why games are the way they are, and if you haven't got a background in the industry you need that experience to be taken seriously.'

Images courtesy of *Dear Esther*.



EVERYDAY HEROES

A COLLABORATIVE PROJECT IS BRINGING TO LIFE AN IMPORTANT LONDON MEMORIAL. **MATT SHINN** REPORTS

Just north of St Paul's Cathedral in London is a small patch of peaceful green space, surrounded by tall buildings. Known as Postman's Park (the headquarters of the General Post Office used to be nearby, and it was long a popular haunt of posties), it is home to one of the City's most endearing public monuments – the Memorial to Heroic Self Sacrifice, created by the artist George Frederic Watts. The Memorial lists the names and deeds of people who died while saving the lives of others, and who might otherwise have been forgotten.

Arranged on a long wall are over fifty ceramic tablets, describing the acts of bravery of ordinary men, women and children (the youngest eight years old). The Memorial, which was unveiled in 1900, celebrates the 'heroism of every-day life': as well as being a place of remembrance, it was intended to serve as an inspiration to those who read the descriptions of bravery inscribed on the memorial tablets.

The trouble is, a lack of space means that each tablet tells you just enough to intrigue, but little more. Who, for example, was John Cramner Cambridge, who was drowned in 1901 near Ostend in Belgium, 'while saving the life of a stranger and foreigner'? How was it that the doctor at Middlesex Hospital, William Lucas, 'risked poison for himself rather than lessen any chance of saving a child's life,' and so died, in 1893?

Dr John Price, a historian and Lecturer in modern British history based at the University of Roehampton, has been researching the stories behind the tablets for over a decade. 'I used to show the memorial park to my friends,' he says, 'and would give them the back-stories behind the inscriptions. And those friends used to say, "what a shame you can't be here all the time, explaining who these people were".'

Hidden from history?

But now we have the next best thing to an academic permanently stationed at the site. The Everyday Heroes of Postman's Park mobile app is available for free, and enables anyone with a

compatible smartphone to find out more about the sixty-two individuals commemorated on the tablets. For each person, there is a full description of who they were, and of the incident in which they died. In many cases, there are photos too. The app brings the ordinary heroes to life as real people, rather than just names on a monument.

There's Alice Ayres, for example, a servant who, trapped in a burning house, gave up the chance to escape to safety, running back three times to rescue her employer's children, before being overcome by fumes and falling to her death – her story features in Patrick Marber's 1997 play *Closer*.

The people who are commemorated in Postman's Park were mostly unremarkable during their lifetimes, and would have remained hidden from history were it not for the circumstances of their deaths. Using Watts's own original newspaper cuttings and notes, as well as Coroner's reports and other sources, John Price has been able to piece together the lives behind the heroic deeds, and on occasion (since Watts was generally working only from the first reports of incidents) correct details. We learn, for example, that John Cranmer Cambridge died saving two 'strangers and foreigners,' not one.

As John Price says, though, the back-stories on the app are written in the same tone of voice as the original inscriptions. 'It was important to Watts that you should make up your own mind about the actions that he was describing. He doesn't tell you how to feel about them, and so we don't pass judgement on them either – we don't describe events as "tragic", for example, or "sad".'

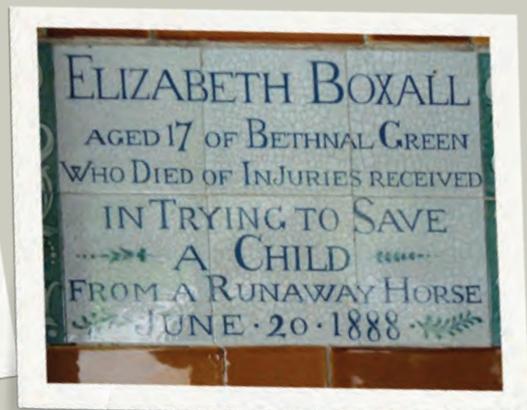
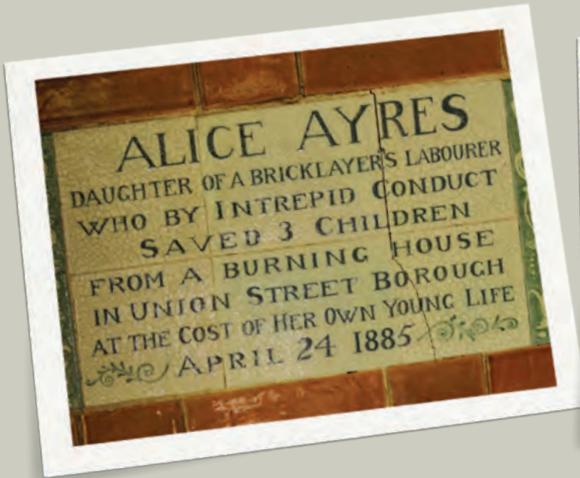
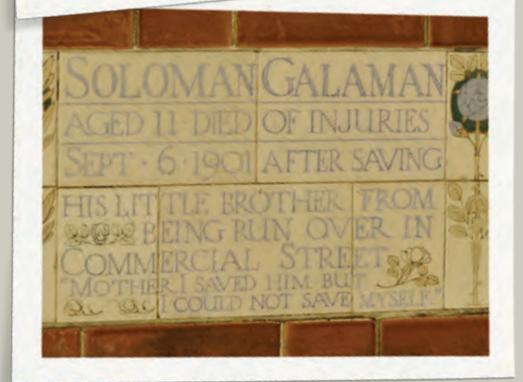
Only connect

The Everyday Heroes app came about through the intervention of Creativeworks London, one of four Knowledge Exchange Hubs for the Creative Economy, funded by the Arts and Humanities Research Council. Creativeworks put John Price in touch with developers Prossimo Ventures, who had the skills to realise the app that he'd long had at the back of his mind.

66

THE APP USES SOME INNOVATIVE IMAGE RECOGNITION SOFTWARE, MEANING THAT YOU ONLY HAVE TO POINT YOUR SMARTPHONE CAMERA AT ONE OF THE MEMORIAL TABLETS, AND IT WILL WORK OUT WHICH ONE IT IS.

99



The names and deeds of 'everyday heroes' in the Memorial to Heroic Self-Sacrifice in London

For John Price, coming to understand the technology involved in creating an app led him to think much more carefully about how information about Postman's Park might be presented. 'I saw how you needed to break the material up, to make it accessible, and make it interactive. At the same time, though, I had to resist the urge to over-dramatise the stories I was telling, to ensure that the app is still rigorous in the information it provides.'

For Prossimo Ventures' Managing Director Gary Gregson, meanwhile, working on the Everyday Heroes app has also brought benefits – 'the app uses some innovative image recognition software, meaning that you only have to point your smartphone camera at one of the memorial tablets, and it will work out which one it is. We may well find uses for that software in other areas.' The collaboration with John Price has opened-up other opportunities for Prossimo Ventures, to work with universities. But as Gary Gregson points out, 'we'd never have met John, without Creativeworks bringing us together.'

A place for the app

Postman's Park is no longer open to new memorial tablets, commemorating new acts of heroism: given that this was a personal project of G. F. Watts, bearing his stamp and very much of his time, and given that the modern honours system now performs much the same function as the Memorial, it was decided to close the door to new entries.

But of the people whose names are on the tablets, we now have a much better understanding – who they were, what sort

CREATIVWORKS LONDON

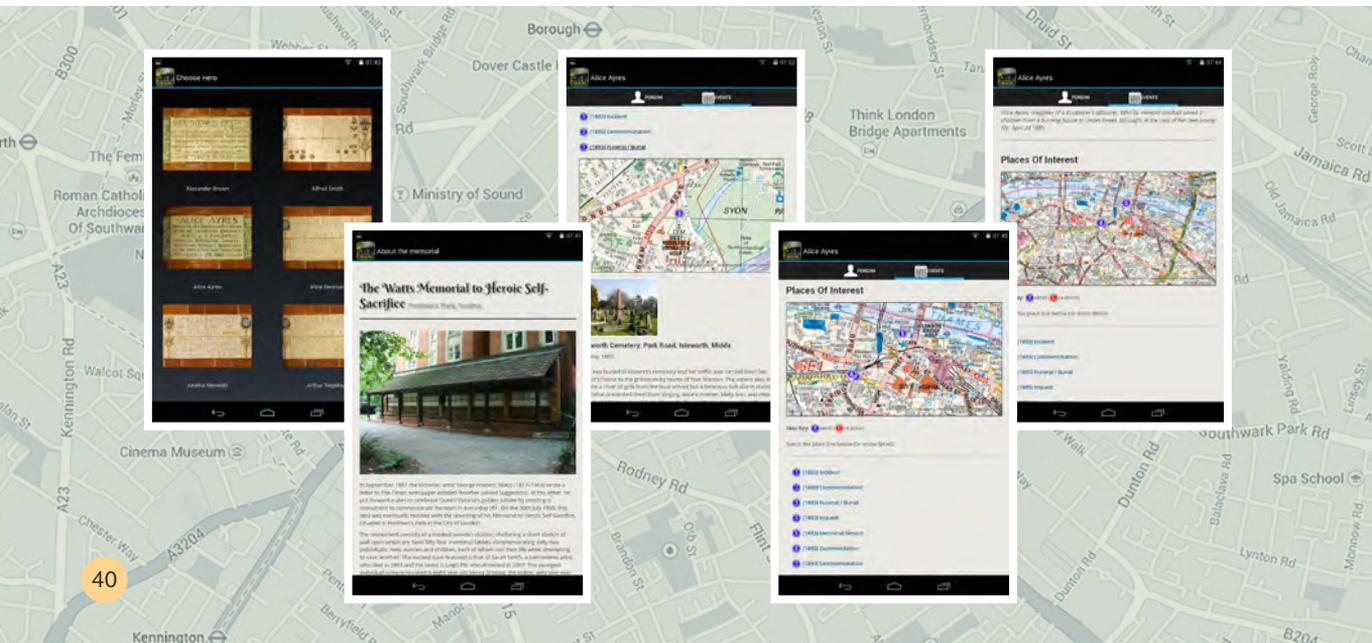
Creativeworks London brings new collaborative research opportunities to London's creative businesses. We are thirty-eight London-based universities, colleges, museums, libraries and archives. Together, we have unrivalled skills and expertise that can be of benefit to businesses who are interested in exploring areas such as entrepreneurial development, emerging markets, new ways of engaging London's diverse audiences, and the development of digital resources and media content.

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of life they led, and what exactly happened on the day they died. In this respect, the app meets one of Watts's original objectives in creating the Memorial, in that it encourages the viewer to find out about the person behind each act of heroism, and wonder who would have been capable of it.

Everyday Heroes is a good example of what a mobile app can do – allowing people in a particular locality to engage more deeply with that place, and with the past. And only the bringing together of research and technology, of academia and business, could have created it.

For further information, please go to: www.postmanspark.org.uk



RESEARCHERS ARE WORKING WITH INDUSTRY TO DEVELOP NEW TECHNOLOGIES, NEW MANUFACTURING METHODS AND A NEW VISION OF THE FUTURE, WRITES **IAIN AITCH**

THE FUTURE OF 3D PRINTING

In recent years, the press and public have been showing an increasing interest in 3D printing, with television news demonstrations prompting amused presenters to speculate as to when our home Hewlett Packards will be able to replicate themselves, or even be able to print our dinner. Such reports represent 3D print as a fairly new phenomenon, but researchers and industry experts have been looking into the technology for decades now.

'It's been around for a while,' says Professor Stephen Hoskins, who heads up the Centre for Fine Print Research at the University of the West of England. 'The SLA1 by Charles Hull was the first commercial machine in 1986, the first patent for the process were filed in 1976.'

Hoskins and his team at UWE, regularly backed by the AHRC, have been working extensively on developing 3D printing in ceramics, with the results primarily having an application for model-making and prototypes. The printing process is quite different from the rapid, visually intriguing plastic printing process you may



A sugar bowl made using 3D printing techniques by AHRC-funded researchers at UWE.



I THINK WHAT IS GREAT IS THAT UWE HAS OPENED THE DOORS TO PEOPLE WHO WOULD NOT USUALLY HAVE ACCESS TO THAT TECHNOLOGY



have seen on television and is certainly more difficult to get right. But there is a definite desire to work towards being able to print useable objects that can hold your morning tea, with commercial partners such as Denby providing a real testing ground for these advances and a sounding board for what industry will want in the future.

'With our process you have a powdered clay and you inkjet a binding material. To make a part you print the very base of a cup in a line of glue that glues the clay together,' says Hoskins. 'That drops down one step and we push clay over the top to the next layer, it then drops down and we keep pushing clay over and it keeps dropping down a step at a time, building as it goes.'

This process leaves the printed object embedded in clay powder, so the excess powder is simply

brushed away to reveal the printed cup or bowl underneath. It can then be fired twice, as a normal ceramic piece would, but Hoskins and the team are working hard to get one stage ahead of this process with their development work.

'One project we are working on is 3D self-glazing ceramics, which is based on an ancient Egyptian recipe called faience, the very first glazed ceramic material' says Hoskins. 'The idea of making a material that can 3D print and only need to be fired once is great in research terms. You know it will theoretically have long term functions. We think we can make it more stable than it was in Egyptian times, in which case then it has some commercial applications.'

This research is exactly the kind of work that Hoskins says the AHRC grants allow him to

FURTHER COLLABORATIONS

STEVE HOSKINS WRITES:

The University of the West of England's Centre for Fine Print Research has been collaborating with Burgess Dorling & Leigh (Burleigh), the last company to print the historic blue and white underglaze tissue ceramic decoration process commercially, based at its Grade II listed Middleport pottery in Stoke on Trent.

The Princes' Regeneration Trust acquired the pottery in June 2011 saving it from closure. The Trust's involvement saved 50 jobs and maintained the traditional manufacturing skills unique to Middleport, preserving the historic buildings, collection of moulds, machinery and hand engraved copper printing plates. The Princes' Trust specified that pottery production should remain at Middleport for the next 25 years. However the company had a long-term challenge with both the maintenance and production of printing rollers and plates, which have always been hand engraved.

This project sought to meet that challenge by introducing the potential of printing traditional

pottery underglaze tissue from a digital file. This reduced the time taken to engrave a roller from one month to less than a day to create a digital equivalent roller, whilst retaining the integrity of the final product. Burleigh requested the collaboration with the CFPR due to its expertise in the practical application and marriage of 19th Century printing processes, with digital technology.

CFPR have recreated intaglio printing rollers and plates using a laser engraved process, which fit Burleigh's historic machinery. The aim was to recreate the qualities and visual aesthetic of underglaze tissue using contemporary digital technology whilst retaining all of the craft and artisan skills inherent in the application of underglaze tissue printing. These rollers once adopted should enable Burleigh to respond quickly to the marketplace and opens up the ability to print all of the patterns from their archive rather than just the patterns for which they still have usable rollers and plates.



concentrate on, meaning that innovation can happen at the correct pace and without the need for a strict financial imperative.

'We have a good idea that is possible and slightly more than theoretical, but we've still got to do the research,' says Hoskins. 'We do need an element of "I just want to try this" and I have that ability to fail, whereas in industry you would not be able to afford to do that. It allows for more innovation in the long run. You have an idea that something will work out one way and you usually get halfway through and then think 'ah, okay' and you discover you need to do something this way or that way. So, for example, the stuff we are most successful in is not making a 3D printable clay but how you support that in the kiln and that is the bit that has real commercial application.'

A lot of the focus on technologies such as 3D printing is on these exact, scientific commercial applications, but Hoskins comes from an arts and printing background and is keen to point out that the research has uses for fine art ceramics too. Lots of artists are already experimenting with 3D print, with Antony Gormley trying the medium and Richard Hamilton being assisted in 3D modelling by UWE before his death in 2011.

'For a long time it was quite hard for people to understand that research and industrial work could go together in the humanities, that's always been quite a hard barrier to get over, because it's not a normal humanities-type model,' says Hoskins who has a book *3D Printing for Artists, Designers and*

Makers coming out in October. 'We still get people who say "you don't publish enough", but you know we publish a lot in science arenas as well as the arts arenas so it's difficult getting enough spread of publication because we are quite diverse, which is difficult in an academic way.'

Academia may be somewhat confused about the work done at UWE, but the commercial sector is certainly keeping a keen eye on the department's work, with Denby being big fans of the work there.

'Here is a university that has already made ceramic printing a reality and having that AHRC funding meant they could try these things out without commercial imperatives,' says Denby senior designer Gary Hawley. 'I think what is great is that UWE has opened the doors to people who would not usually have access to that technology. So, how would someone who was trying to make a bust or a portrait use it?'

'I don't think that printing finished commercial products is achievable at the moment, but I think that day will come. For the moment we are within pushing distance of producing a one-off version of something we will make. We can certainly replicate things but we can't yet produce an article, but I can only see it going one way. It is like anything, there are small steps, but we are really pleased with the way it is heading.'

For further information about Professor Hoskins' work, please go to: www.uwe.ac.uk/sca/research/cfpr

THE CREATIVE ECONOMY IN IMAGES



The Shrewsbury Book. Rouen, 1444–45. Royal 15 E. vi, ff. 2v-3 from the Royal Illuminated Manuscripts exhibition at the British Library, 2011/12

A 'Georgian Listening Device' from 'Ghosts in the Garden', REACT Hub



The AHRC-funded 3D printing project at UWE, which collaborated with Denby Potteries



Tate curator Christine Riding was funded by the AHRC for her project 'The Sublime Object: Nature, Art and Language,' Courtesy of the Tate



The New Generation Thinkers, 2012. Courtesy of the BBC

'Bike Off' – reducing cycle theft through innovative design. Funded by the AHRC



Spires, by Christen Kobke, from a major exhibition of the Danish artist's work at the National Gallery in 2010. Research was funded by the AHRC



From 'Dear Esther', a video game created by AHRC-funded researcher Dan Pinchbeck

A sugar bowl made using 3D printing techniques by AHRC funded researchers at UWE



An 'Aestheticode' from the 'Archives to Assets' project – University of Nottingham



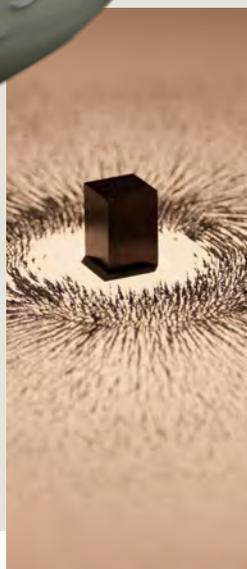
From the AHRC-funded project 'Live Notation: transforming matter of performance'. Image: Pixelwitch



Imogen Heap demonstrating The Gloves, a cutting edge experimental gestural music system, at the Digital Transformations Moot in November 2012

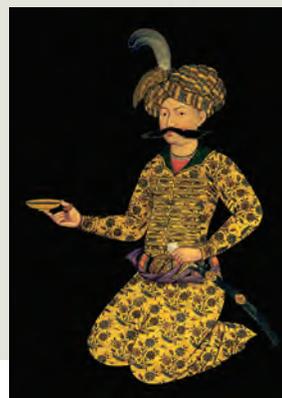


Data dress, by Rachel Taylor, Benjamin Jefferys, Ravi Kotecha, made from the thousands of images and tweets being posted every hour about London Fashion Week



From the Hajj exhibition at the British Museum 2011/12, AHRC-funded research undertaken by Dr Venetia Porter

Portrait of Shah 'Abbas at the British Museum





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